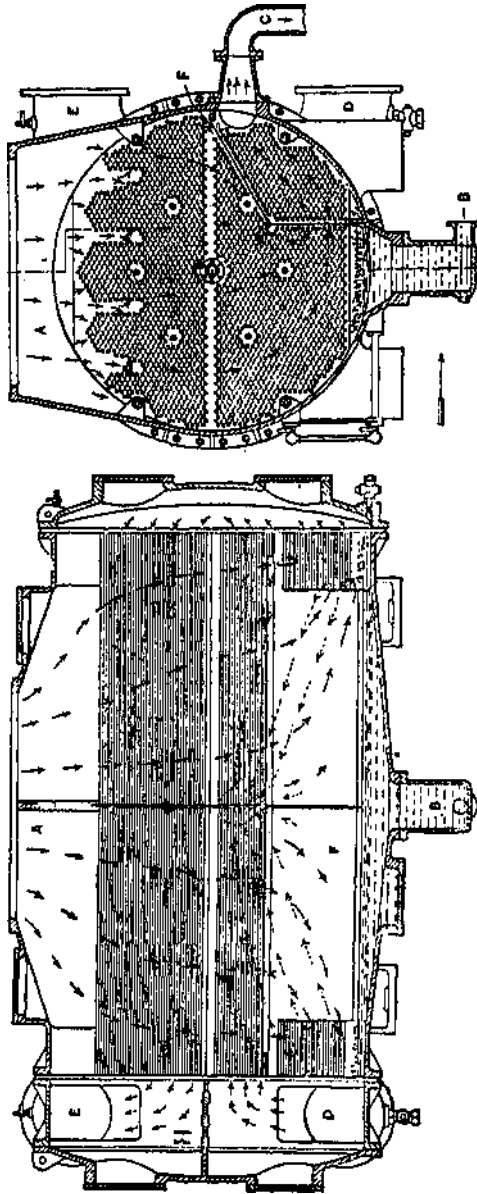


CONDENSERS AND COOLING TOWERS



water enters the end cover at the point i>, and flows through the bottom half of the tubes to the other end. At this end the cover directs the water through the upper half or top set of the tubes, and it finally leaves the condenser at the point k. The exhaust steam enters at A through exhaust connections of ample area, which is particularly necessary for steam turbines expanding to very low pressures, and passes among the tubes. Some of the tubes in the top set are left out to form channels so as to facilitate the proper distribution of the

steam over the whole cross-section of the condenser. Near the bottom of the condenser the bailie F directs the mixture of air and the small amount of uncondensed steam to the air-pump suction c, whilst the water of condensation is extracted at H. The tubes behind the bailie F; between the bottom of the condenser and the air-pump suction (' arc introduced to cool and " devaporixe " the air. This reduces the volume of the air and the corresponding displacement of the dry air-pump as is shown by the calculations on p. 237. The

evaporating tubes are usually adopted for high vacua and therefore are hardly necessary in condensers connected to reciprocating engines.

An inspection of the cross-sectional view in fig. 6 shows how the area available for the flow of the steam and air

narrows down from the steam inlet to the air outlet. This is a desirable feature, so as to preserve a reasonable velocity of flow of the steam over the tubes as the condensation goes on. With a circular shape of shell, however, this feature cannot be arranged for as well as in a condenser of